WEST

Freeform Search

Database: US Patents Full-Text Database
JPO Abstracts Database
EPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Term: l4 and intron

Display: 30 Documents in Display Format: TI Starting with Number 1

Generate: ○ Hit List ◉ Hit Count ○ Image

Search | Clear | Help | Logout | Interrupt

Main Menu | Show S Numbers | Edit S Numbers | Preferences

Search History

Today's Date: 10/2/2000

DB Name	Query	Hit Count	Set Name
USPT,JPAB,EPAB,DWPI	l4 and intron	64	L5
USPT,JPAB,EPAB,DWPI	l3 and (tat inducible)	120	L4
USPT,JPAB,EPAB,DWPI	l2 and (provirus or proviral)	737	L3
USPT,JPAB,EPAB,DWPI	retroviral vector	4495	L2
DWPI,USPT,EPAB,JPAB	retrovir? vector	1	L1

(FILE 'HOME' ENTERED AT 17:09:54 ON 02 OCT 2000)

FILE 'MEDLINE, AGRICOLA, CANCERLIT, SCISEARCH, CAPLUS, BIOSIS, MEDICONF'
ENTERED AT 17:10:12 ON 02 OCT 2000

```
L1        252212 S RETROVIR?
L2         35378 S L1 AND VECTOR
L3          2942 S L2 AND PROVIR?
L4            77 S L3 AND INTRON
L5            30 DUP REM L4 (47 DUPLICATES REMOVED)
L6            30 SORT L5 PY
                 E KINGSMAN S?/AU
L7           113 S E6
L8            46 S L7 AND RETROVIR?
L9            35 DUP REM L8 (11 DUPLICATES REMOVED)
L10           35 SORT L9 PY
L11            9 S L10 AND PROVIR?

=> s l10 and intron

L12            1 L10 AND INTRON

=> d ti so au ab pi l12


L12  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2000 ACS
TI   Split-intron retroviral vectors: enhanced expression
     with improved safety
SO   J. Virol. (2000), 74(5), 2365-2371
     CODEN: JOVIAM; ISSN: 0022-538X
AU   Ismail, Said I.; Kingsman, Susan M.; Kingsman, Alan J.; Uden,
     Mark
AB   The inclusion of retrovirus-derived introns within
     retrovirus-based expression vectors leads to a fraction of the
     resulting transcripts being spliced.  Such splicing has been shown to
     markedly improve expression.  One way to improve upon this still further
     might involve the use of more efficient introns instead of those
     from the provirus.  Currently, however, incorporation of such
     introns remains self-defeating since they are removed in the
     nucleus of the producer cell.  In the past, elaborate ways to overcome
     this problem have included the use of alphaviruses to make the vector
     transcripts within the cytoplasm, thus avoiding the nuclear splicing
     machinery during vector prodn.  The authors now present a novel design for
     the inclusion of introns within a retroviral vector.
     In essence, this is achieved by exploiting the retroviral
     replication process to copy not only the U3 promoter but also a synthetic
     splice donor to the 5'-long-terminal-repeat position during reverse
     transcription.  Once copied, synthesized transcripts then contain a splice
     donor at their 5' end capable of interacting with a consensus splice
     acceptor engineered downstream of the packaging signal.  Upon
     transduction, the authors demonstrate these vectors to produce enhanced
     expression from near fully spliced (and thus packaging signal minus)
     transcripts.  The unique design of these high titer and high-expression
     retroviral vectors may be of use in a no. of gene therapy
     applications.
```

RETROVIRUS MEDIATED GENE EXPRESSION AND GENE TRANSDUCTION.

SO Diss Abstr Int (Sci), (1984). Vol. 45, No. 2, pp. 460-B.

AU Joyner A L

AB An important question to be answered is the role of regulated gene expression in cell differentiation. A molecular genetics approach to answering this question requires cloning genes expressed during cell differentiation and the determination of the DNA sequences responsible for their regulated gene expression. The available DNA-mediated gene transfer techniques have been used to study gene function, to clone selectable genes and as a bioassay for defining some of the DNA sequences required for gene expression. However, these gene transfer techniques are limited in their application to normal animal cells and do not provide low copy stable integration of the transferred genes with a predictable integrated structure. The experiments described in this Thesis were carried out to determine whether **retroviruses** could be used as gene transfer **vectors** and to test whether these **vectors** would overcome many of the problems inherent to DNA-mediated gene transfer techniques. A number of **retrovirus vectors** were constructed which express dominant and selectable genes. The structure of these infectious **retrovirus vectors** were analyzed to determine which viral sequences are required for **retrovirus** infection and what DNA sequences when introduced into a virus inhibit **retrovirus** replication. In addition, one of the infectious **retrovirus vectors** expressing a dominant selectable gene was used to infect mouse bone marrow cells to test whether these **vectors** could be used to transduce normal animal cells. The results of these experiments demonstrate the following: (i) **Retroviruses** can be used as efficient gene transfer **vectors** for selectable genes; (ii) **retrovirus vectors** can be used to transduce selectable genes into mouse bone marrow progenitor cells; (iii) the **retrovirus** sequences which are required for **retrovirus** replication include the 5' and 3' **provirus** long terminal repeat sequences and immediately adjacent sequences; (iv) polyadenylation signals can inhibit **retrovirus** infectivity; (v) expression of transduced genes containing **introns** can be affected by alterations in the **intron** sequences; and (vi) infection of a cell with a **retrovirus vector** results in the stable integration, in low copy number, of the virus with a specific **provirus** structure.

L6 ANSWER 4 OF 30 CAPLUS COPYRIGHT 2000 ACS

TI **Retroviral vector**

SO Eur. Pat. Appl., 33 pp.
CODEN: EPXXDW

IN Jacob, Francois; Nicolas, Jean Francois; Rubenstein, John

AB **Retroviral vectors** are prepd. that are capable of transducing and expressing genes in eukaryotic, esp. embryonic, cells. Thus, plasmid pMMuLV-SVTK-NEO was constructed from pB6, which contains a **proviral** copy of the Moloney murine leukemia virus (M-MuLV), and pSVtk-neo.beta.. Plasmid pMMuLV-SVTK-NEO is comprised of (1) two 492 base pair (bp) long terminal repeats (LTR) that are essential for the transcription of the genomic RNA and integration of the **provirus**, (2) 3' of the 5' LTR a 418 bp sequence contg. the M-MuLV's 1st **intron** and the putative packaging signal of the genomic RNA, (3) the neo gene which confers resistance to G418 in mammals, (4) the SV40 virus early and herpes simplex I virus thymidine kinase promoters, (5) the 3' and the M-MuLV in gene, and (6) a polyadenylation signal in the 3' LTR. Flanking both LTRs are sequences derived from the mouse genome. The remaining 4.4 kb of the plasmid correspond to a rearranged copy of pBR332, which expresses the ampicillin resistance gene. Embryonal carcinoma cells, at all stages of development, that were transformed with pM-MuLV-SVTK-NEO were able to express resistance to antibiotic G-418.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 178220	A2	19860416	EP 1985-401914	19851001
	EP 178220	A3	19870826		
	EP 178220	B1	19920102		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	AT 71146	E	19920115	AT 1985-401914	19851001

L6 ANSWER 9 OF 30 CAPLUS COPYRIGHT 2000 ACS

TI Transduction of the human insulin gene via **retroviral vectors** fails to yield spliced transcripts

SO DNA (1989), 8(1), 59-68
CODEN: DNAADR; ISSN: 0198-0238

AU Perkins, Archibald S.; Kirschmeier, Paul T.; Weinstein, I. Bernard

AB Previous reports on **retroviral vectors** have shown them to be useful for transferring genes into animal cells. Genes placed under the **retroviral** long terminal repeat (LTR) act as dominant loci in recipient cells and can permanently alter their genotype and phenotype. Previous reports have shown that recombinant **retroviruses** contg. genomic sequences with both **introns** and exons display a high frequency of deletion and abnormal kinetics of splicing of **intron** sequences. In this report a 2.9-kb fragment contg. the entire human insulin gene was inserted into a Moloney-derived **retroviral vector** in the same transcriptional orientation as the LTRs. RNA transcripts synthesized in cells transformed with these constructs remained unspliced, as assessed by both RNA blot anal. and S1 mapping. Ten subclones derived following viral passage showed no splicing, and failure to splice was obsd. regardless of cell type or species of origin, or no. of viral passages. Thus, genomic sequences contg. **introns** when situated within the context of a **retroviral** transcript do not in all instances exhibit expected kinetics of splicing.

L6 ANSWER 21 OF 30 MEDLINE

TI **Retrovirus**-mediated transduction of an engineered **intron**-containing purine nucleoside phosphorylase gene.

SO HUMAN GENE THERAPY, (1995 May) 6 (5) 611-23.
Journal code: A12. ISSN: 1043-0342.

AU Jonsson J J; Habel D E; McIvor R S

AB We constructed and tested several **retroviral vectors** containing abbreviated purine nucleoside phosphorylase (PNP) genes in the reverse orientation, a strategy compatible with transduction of **intron**-containing genes. We observed two types of deletions in these **vectors** after one round of replication: (i) Deletions flanked by direct repeats with one copy of the repeat retained in the **provirus**, presumably resulting from reverse transcriptase slippage during (-) strand DNA synthesis. (ii) Deletions due to fortuitous splice sites in the PNP complementary strand. Two splice donor sites and three splice acceptor sites were identified in a 3.0-kb PNP minigene. We found that the splice donor sites (but not the splice acceptor sites) could be predicted by sequence analysis of the PNP complementary strand. To increase the frequency of intact PNP gene transduction, we introduced sequence modifications: The putative PNP polyadenylation signal and a truncated 117-bp 3' flank were recovered from a rearranged **provirus** and inserted in place of a 1.2-kb genomic 3' flank. Sequences associated with deletions were eliminated from the PNP 5' untranslated region, and two fortuitous splice donor signals in the complementary strand were inactivated. A **retroviral vector** LN-PMG11, containing the engineered 2.9-kb PNP minigene in the reverse orientation, was transduced intact in 23% (5/22) of clones after one round of replication and in 87% (20/23) of clones after a second round of replication from two primary virus producer clones. Directed mutagenesis of sequences preventing intact **retroviral** transduction thus provided a 2.9-kb PNP gene that was transduced intact and expressed at a high level.

L6 ANSWER 26 OF 30 CAPLUS COPYRIGHT 2000 ACS
TI Construction of TRIN **retroviral vectors** contg. Rev-responsive element of HIV1 virus
SO PCT Int. Appl., 38 pp.
CODEN: PIXXD2
IN Kingsman, Susan Mary; Kingsman, Alan John
AB **Retroviral vector** particles having an RNA genome carrying sequences which provide in the DNA **provirus** at least one selected gene located within an **intron** in a transcription unit of the **provirus**, which transcription unit further comprises a polynucleotide response element which is responsive to a nucleus to cytoplasm transport factor such as HIV Rev. These **vectors** have been named TRIN (Tat and Rev inducible) **vectors**. Expression of the selected genes is thus rendered Rev-dependent and so is dependent upon the presence of HIV. The TRIN **vectors** also contain the murine leukemia virus splice donor site, the strong CMV promoter, a packaging signal, and the HIV U5 and R regions.

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9817817	A1	19980430	WO 1997-GB2859	19971017
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9747124	A1	19980515	AU 1997-47124	19971017
GB 2331989	A1	19990609	GB 1999-4143	19971017
EP 931157	A1	19990728	EP 1997-909438	19971017
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

L6 ANSWER 29 OF 30 SCISEARCH COPYRIGHT 2000 ISI (R)

TI Split-**intron** **retroviral** **vectors** enhanced expression with improved safety

SO JOURNAL OF VIROLOGY, (MAR 2000) Vol. 74, No. 5, pp. 2365-2371.
Publisher: AMER SOC MICROBIOLOGY, 1325 MASSACHUSETTS AVENUE, NW, WASHINGTON, DC 20005-4171.
ISSN: 0022-538X.

AU Ismail S I; Kingsman S M (Reprint); Kingsman A J; Uden M

AB The inclusion of **retrovirus**-derived **introns** within **retrovirus**-based expression **vectors** leads to a fraction of the resulting transcripts being spliced, Such splicing has been shown to markedly improve expression (W.J. Krall et al,, Gene Ther, 3:37-48, 1996), One way to improve upon this. still further might involve the use of more efficient **introns** instead of those from the **provirus.** Currently, however, incorporation of such **introns** remains self-defeating since they are removed in the nucleus of the producer cell. In the past, elaborate ways to overcome this problem have included the use of alphaviruses to make the **vector** transcripts within the cytoplasm, thus avoiding the nuclear splicing machinery during **vector** production (K. J. Li and H. Garoff, Proc. Natl, Acad, Sci. USA 95:3650-3654, 1998), We now present a novel design for the inclusion of **introns** within a **retroviral** **vector.** In essence, this is achieved by exploiting the **retroviral** replication process to copy not only the U3 promoter but also a synthetic splice donor to the 5'-long-terminal-repeat position during reverse transcription. Once copied, synthesized transcripts then:contain a splice donor at their 5' end capable of interacting with a consensus splice acceptor engineered downstream of the packaging signal. Upon transduction, we demonstrate these **vectors** to produce enhanced expression from near fully spliced land thus packaging signal minus) transcripts. The unique design of these high titer and high-expression **retroviral** **vectors** may be of use in a number of gene therapy applications.

L15 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2000 ACS
TI Construction of TRIN **retroviral vectors** contg. Rev-responsive element of HIV1 virus
SO PCT Int. Appl., 38 pp.
CODEN: PIXXD2
IN Kingsman, Susan Mary; Kingsman, Alan John
AB **Retroviral vector** particles having an RNA genome carrying sequences which provide in the DNA **provirus** at least one selected gene located within an intron in a transcription unit of the **provirus**, which transcription unit further comprises a polynucleotide response element which is responsive to a nucleus to cytoplasm transport factor such as HIV Rev. These **vectors** have been named TRIN (**Tat** and Rev **inducible**) **vectors**. Expression of the selected genes is thus rendered Rev-dependent and so is dependent upon the presence of HIV. The TRIN **vectors** also contain the murine leukemia virus splice donor site, the strong CMV promoter, a packaging signal, and the HIV U5 and R regions.

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9817817	A1	19980430	WO 1997-GB2859	19971017
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9747124	A1	19980515	AU 1997-47124	19971017
GB 2331989	A1	19990609	GB 1999-4143	19971017
EP 931157	A1	19990728	EP 1997-909438	19971017
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

ANSWER 11 OF 15 SCISEARCH COPYRIGHT 2000 ISI (R)

TI Experimental gene therapy: The transfer of **Tat-inducible** interferon genes protects human cells against HIV-1 challenge in vitro and in vivo in severe combined immunodeficient mice

SO AIDS, (JUL 1997) Vol. 11, No. 8, pp. 977-986.
Publisher: RAPID SCIENCE PUBLISHERS, 2-6 BOUNDARY ROW, LONDON, ENGLAND SE1 8NH.
ISSN: 0269-9370.

AU Sanhadji K; Leissner P; Firouzi R; Pelloquin F; Kehrli L; Marigliano M; Calenda V; Ottmann M; Tardy J C; Mehtali M; Touraine J L (Reprint)

AB Objectives: To evaluate in vitro and in vivo a strategy for gene therapy for AIDS based on the transfer of interferon (IFN)-alpha, -beta and -gamma genes to human cells.

Design: Human U937 promonocytic cells were stably transfected with **Tat-inducible** IFN expression **vectors** conferring an antiviral state against infection with HIV.

Methods: Transfected cells were either infected by HIV-1 in vitro or transplanted into severe combined immunodeficient (SCID) mice for an HIV challenge in vivo.

Results: U937 cell lines stably carrying IFN transgenes under the positive control of the HIV-1 **Tat** protein were highly resistant to HIV-1 replication in vitro. This antiviral resistance was associated with a strong **induction** of IFN synthesis immediately following the viral infection. HIV-1 proteins were found to be specifically trapped within the genetically modified cells. In contrast, all IFN-U937 cells permitted full HIV-2 replication. Transfected cells injected into SCID mice and challenged against HIV-1 were strongly resistant to infection when cells were transduced with IFN-alpha or IFN-beta genes. However, IFN-gamma-transfected cells permitted HIV-1 infection in vivo despite the **induction** of a high level of IFN-gamma secretion. The quantity of **proviral** DNA was 10(5)-fold lower in IFN-alpha- or IFN-beta-transfected U937 cells collected from these SCID mice than that in non-transfected cells.

Conclusions: Our results substantiated the validity of a strategy, based on the transfer of HIV-1-**inducible** IFN-alpha or IFN-beta genes, to confer antiviral resistance to human cells.

L15 ANSWER 10 OF 15 SCISEARCH COPYRIGHT 2000 ISI (R)
TI A simple human immunodeficiency virus **vector** system for selective infection of CD4(+) cells and **inducible** expression of foreign genes
SO EXPERIMENTAL AND MOLECULAR MEDICINE, (30 JUN 1997) Vol. 29, No. 2, pp. 103-110.
Publisher: KOREAN SOC MED BIOCHEMISTRY MOLECULAR BIOLOGY, #812 KOFST, 635-4 YOKSAM-DONG KANGNAM-GU, SEOUL 135-703, SOUTH KOREA.
ISSN: 1226-3613.
AU Kim Y S
AB The alteration of T lymphocyte functions as a consequence of human immunodeficiency virus (HIV) infection is a potential target for the genetic treatment of the acquired immunodeficiency syndrome (AIDS). One approach to the gene therapy for AIDS is to block the replication of HIV-1. **Tat**-dependent expression of forein gene and selective infection of CD4(+) cells by **retroviral vector** might be useful for abrogating the production of HIV-1 from cells. As part of studies to examine the feasibility of this concept, I constructed **tat**(+) and **tat**(-) HIV-1 **proviral vectors** that express all HIV-1 genes except for env and/or **tat** gene. When **tat**(+) or **tat**(-) HIV-1 particles were used for infection of HeLa T4 cells containing the endogenous beta-galactosidase (lacZ) gene under the control of the HIV-1 promoter and transactivation response element sequences, only the **tat**(+) HIV-1 particles transactivated the lacZ gene expression. This activation of lacZ expression following HIV infection of **Tat**(-) cells that stably contained but did not express the lacZ construct was determined to be an efficient process. I also constructed simple HIV-1 **vectors** that express the lacZ gene in a **Tat**-dependent manner or the hygromycin B phosphostransferase gene (Hyg(r)) under the control of the SV40 early promoter. The **Tat**-dependent **vector** conferring the lacZ(+) phenotype was assayed by beta-gal staining after infection of **Tat**(+) or **Tat**(-) cells. The activation of lacZ expression was observed only in **tat**(+) cells. Another simple HIV-1 **vector** containing the Hyg(r) gene was used for **retroviral** production from HeLa cells expressing the HIV-1 env gene and infection of CD4(+) or CD4(-) cells, but Hyg(r) colony was observed only from CD4(+) cells. These results provide a rationale for the use of HIV-1 **retroviral vector** system in the design of gene therapy of HIV infection.

L15 ANSWER 11 OF 15 SCISEARCH COPYRIGHT 2000 ISI (R)
TI Experimental gene therapy: The transfer of **Tat-inducible** interferon genes protects human cells against HIV-1 challenge in vitro and in vivo in severe combined immunodeficient mice
SO AIDS, (JUL 1997) Vol. 11, No. 8, pp. 977-986.
Publisher: RAPID SCIENCE PUBLISHERS, 2-6 BOUNDARY ROW, LONDON, ENGLAND SE1 8NH.
ISSN: 0269-9370.
AU Sanhadji K; Leissner P; Firouzi R; Pelloquin F; Kehrli L; Marigliano M; Calenda V; Ottmann M; Tardy J C; Mehtali M; Touraine J L (Reprint)
AB Objectives: To evaluate in vitro and in vivo a strategy for gene therapy for AIDS based on the transfer of interferon (IFN)-alpha, -beta and -gamma genes to human cells.
Design: Human U937 promonocytic cells were stably transfected with **Tat-inducible** IFN expression **vectors** conferring an antiviral state against infection with HIV.
Methods: Transfected cells were either infected by HIV-1 in vitro or transplanted into severe combined immunodeficient (SCID) mice for an HIV challenge in vivo.
Results: U937 cell lines stably carrying IFN transgenes under the positive control of the HIV-1 **Tat** protein were highly resistant to HIV-1 replication in vitro. This antiviral resistance was associated with a strong **induction** of IFN synthesis immediately following the viral infection. HIV-1 proteins were found to be specifically trapped within the genetically modified cells. In contrast, all IFN-U937 cells permitted full HIV-2 replication. Transfected cells injected into SCID mice and challenged against HIV-1 were strongly resistant to infection when cells were transduced with IFN-alpha or IFN-beta genes. However, IFN-gamma-transfected cells permitted HIV-1 infection in vivo despite the **induction** of a high level of IFN-gamma secretion. The quantity of **proviral** DNA was 10(5)-fold lower in IFN-alpha- or IFN-beta-transfected U937 cells collected from these SCID mice than that in non-transfected cells.
Conclusions: Our results substantiated the validity of a strategy,

based on the transfer of HIV-1-inducible IFN-alpha or IFN-beta genes, to confer antiviral resistance to human cells.

L15 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2000 ACS

TI **Retroviral vectors** for gene therapy with the therapeutic gene under control of a promoter **induced** by a superinfecting virus

SO PCT Int. Appl., 41 pp.
CODEN: PIXXD2

IN Kingsman, Alan John; Kingsman, Susan Mary; Cannon, Paula Marie

AB **Retroviral** useful in gene therapy have a regulated promoter **inducible** by a regulatory factor e.g. the HIV transactivator protein **Tat**, and at least one selected gene under its transcriptional control. In the **provirus**, the regulated promoter is present in the 5' long terminal repeat (LTR) in place of the 5'-LTR promoter function of the **retrovirus**, and the selected gene is located between the LTRs. Thus when inserted into a host cell the gene will be expressed only when the DNA **provirus** is exposed to the regulatory factor. Constructs using an internal ribosome entry site (IRES) to allow expression of a pair of genes from the promoter are also described. The method is demonstrated by constructing a **vector** carrying a lacZ gene under control of an HIV-1-**inducible** promoter.

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9637623	A1	19961128	WO 1996-GB1230	19960522
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 827545	A2	19980311	EP 1996-914342	19960522
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI				
JP 11511005	T2	19990928	JP 1996-535494	19960522
US 6096538	A	20000801	US 1997-952948	19971119

L15 ANSWER 5 OF 15 MEDLINE
TI Comparison of 5' and 3' long terminal repeat promoter function in human immunodeficiency virus.
SO JOURNAL OF VIROLOGY, (1994 Jun) 68 (6) 3830-40.
Journal code: KCV. ISSN: 0022-538X.
AU Klaver B; Berkhout B
AB The architecture of a **retroviral** genome presents some unusual features for transcriptional regulation because of duplication of the transcriptional control sequences in the 5' and 3' long terminal repeats (LTRs). We have studied the transcriptional activity of the 5' and 3' LTRs of human immunodeficiency virus type 1 (HIV-1) **vectors**. Using full-length HIV molecular clones, we demonstrate that both LTRs function as **Tat-inducible** promoters. However, the absolute levels of transcription were found to be much higher for the 5' LTR than for the 3' LTR promoter. When transcription was assayed for an integrated HIV-1 **provirus**, we also found that the upstream 5' LTR element was the major transcriptional promoter. 3' LTR transcription, however, can be triggered by inactivation of the 5' LTR promoter. Likewise, 5' LTR transcription is **induced** in constructs lacking a functional 3' LTR promoter. This phenomenon of promoter suppression may have important implications for the design of HIV-based **retrovirus vectors**.